

REMARKS

The issues outstanding in the instant application are the following:

- Claims are rejected under 35 U.S.C. § 112, second paragraph.
- Claims are rejected under non-statutory double patenting over a commonly owned U.S. Patent.
- Claims are rejected under 35 U.S.C. § 102.

Applicants traverse the outstanding rejections and respectfully request reconsideration based on the amendments and remarks presented herein. Claim 1 is withdrawn, claims 5-6, 23, and 27 are currently amended, claims 2-4, 7-22, and 24-26 are canceled, and new claims 28-45 have been added. Claims 5-6, 23, 27, and 28-45 are pending in this application.

Rejection under 35 U.S.C. § 112, Second Paragraph:

Claims 10 and 27 are rejected under 35 U.S.C. § 112, second paragraph. Claim 10 has been canceled and the rejection thereof is therefore considered moot. Claims 23 and 27 have been amended so as to remove the antecedent basis issue identified in the Office Action. Accordingly, Applicants respectfully request reconsideration of the outstanding rejection.

Rejection under Non-Statutory Double Patenting:

The enclosed terminal disclaimer is provided to overcome the outstanding non-statutory double patenting rejection. Accordingly, the details of this rejection are not discussed herein. Applicants request reconsideration of the outstanding double patenting rejection based on the attached terminal disclaimer.

Rejection under 35 U.S.C. §102:

Claims 2, 3, 5-15 and 17-23 are rejected under 35 U.S.C. § 102(e) as being anticipated by Izraelev (U.S. Patent No. 5,924, 848 hereafter Izraelev '848). Applicants respectfully traverse the outstanding rejection. Claims 2-4, 7-15, and 17-22 have been canceled without prejudice.

Accordingly, the rejection of these claims is considered moot, and no discussion of the limitations of these claims is presented herein.

Claims 5 and 6 have been rewritten in independent form incorporating the limitations of now-canceled independent claim 2 and now-canceled dependent claim 3. In addition to incorporating the language of claim 2, the article “an” has been added to claims 5 and 6 to properly introduce the “at least partially hydrodynamically suspended impeller.” Claims 5-6 are patentable over Izraelev ‘848 for the reasons stated below. Applicants note that claims 5-6 have not been narrowed by the amendments made herein.

Claims 5 and 6 recite impeller shapes that are shark fin shaped and generally tear drop shaped, respectively. Izraelev ‘848 does not describe these features. Izraelev ‘848 therefore does not anticipate claims 5-9 under 35 U.S.C. § 102(e). Accordingly, Applicants respectfully request reconsideration of the rejection of claims 5-6.

Claim 23, as amended, recites “wherein said impeller includes at least three blades having faces, wherein said blades include hydrodynamic lifting surfaces on said faces of said blades, said hydrodynamic lifting surfaces including a taper.” Izraelev ‘848 does not disclose that its impeller includes hydrodynamic lifting surfaces on the faces of impeller blades. Accordingly, Izraelev ‘848 does not anticipate claim 23, and claim 23 is therefore patentable over Izraelev ‘848 under 35 U.S.C. § 102 (e). Applicants therefore respectfully request reconsideration of the rejection of claim 23 over Izraelev ‘848.

Rejection under 35 U.S.C. § 102:

Claims 2-4, 13-16 and 23-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Izraelev (U.S. Patent No. 6,206,659, hereafter “Izraelev ‘659”). Claims 2-4, 13-16, and 24-26 have been canceled without prejudice, and the rejection thereof is therefore considered moot. Accordingly, the limitations of claims 2-4, 13-16, and 24-26 are not discussed herein. The limitations of canceled claim 26 have been incorporated into claim 23. Applicants respectfully traverse the rejection of claim 23 for the reasons stated below.

Claim 23 recites “wherein said impeller includes at least three blades having faces, wherein said blades include hydrodynamic lifting surfaces on said faces of said blades, said hydrodynamic lifting surfaces including a taper.” Izraelev ‘659 does not disclose blades having hydrodynamic lifting surfaces on their faces. Accordingly, Izraelev ‘659 does not anticipate claim 23, and claim 23 is therefore patentable over Izraelev ‘659 under 35 U.S.C. § 102(e). Accordingly, Applicants respectfully request that the rejection of claim 23 over Izraelev ‘659 be reconsidered.

Rejection under 35 U.S.C. § 102:

Claims 23 and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nojiri et al. (U.S. Patent No. 6,030,188, hereafter “Nojiri”). Applicants respectfully traverse this rejection.

Claim 23 recites “wherein said impeller includes at least three blades having faces, wherein said blades include hydrodynamic lifting surfaces on said faces of said blades, said hydrodynamic lifting surfaces including a taper.” Nojiri does not disclose blades having hydrodynamic lifting surfaces on their faces. Accordingly, Nojiri does not anticipate claim 23, and claim 23 is therefore patentable over Izraelev ‘659 under 35 U.S.C. § 102(e). Claim 27 depends from claim 23, inherits all the limitations thereof, and is therefore patentable over Nojiri for all the same reasons as claim 23. Accordingly, Applicants respectfully request that the rejection of claims 23 and 27 over Nojiri be reconsidered.

Changes to the Currently Amended Claims:

The language of amended claims 5 and 6 is completely supported by previously presented claims 2, 3, and 5 (for claim 5) and previously presented claims 2, 3, and 6 (for claim 6). Thus, no new matter has been added. The language added to claim 23 may be found in previously presented (now-canceled) claim 26 and in the specification on page 33, lines 24-25 and page 36, lines 9-10. In addition, some of claim 23 has been reworded for the sake of clarity. Support for the amendment to claim 27 may be found in claim 27 as previously presented.

Claim 27 has been amended in this paper to recite the claimed subject matter with greater clarity. No new matter has been added.

Support for the New Claims:

New claims 28-45 are added in this application. In the following, the figure, page, and paragraph numbers refer to the instant application as originally filed. Claim 28 is supported on pages 12, 31, and 36. Claim 29 is supported on page 36 and in FIG. 21. Claims 30 and 31 are supported on page 14, paragraph 1. Claim 32 is supported on page 14, paragraph 3. Claim 33 is supported on page 15, paragraph 1. Claim 34 is supported on page 15, paragraph 2. Claims 35-36 are supported on page 36, paragraph 2 and in FIG. 27. Claim 37 is supported on page 14, paragraph 3. Claims 38-39 are supported on page 33 and in FIG. 21. Claims 40-41 are supported in FIGS. 3A and 3C. Claims 42-45 are supported on page 33 and in FIG. 21. No new matter has been added.

Patentability of the New Claims:

Claim 28 recites the limitations “each said deformed surface including a taper, each said deformed surface forming a wedge-shaped restriction between each said blade and said inner surface of said pump housing, wherein fluid passing through each said wedge-shaped restriction generates a force in a direction substantially parallel to said axis of rotation.” The prior art of record does not disclose these limitations. Accordingly, claim 28 is patentable over the prior art of record. Claims 29-41 depend from claim 28, inherit all the limitations of claim 28, and are therefore patentable over the prior of record for the same reasons as claim 28. Moreover, dependent claims 29-41 recite further novel, nonobvious features not disclosed in the prior art of record. Accordingly, claims 28-41 are believed to be patentable.

Claim 42 recites a particular impeller blade geometry not disclosed in the prior art of record. Claims 43-45 depend from claim 42, inherit all the limitations of claim 42, and are therefore patentable over the prior art for the same reasons as claim 42. Moreover, dependent

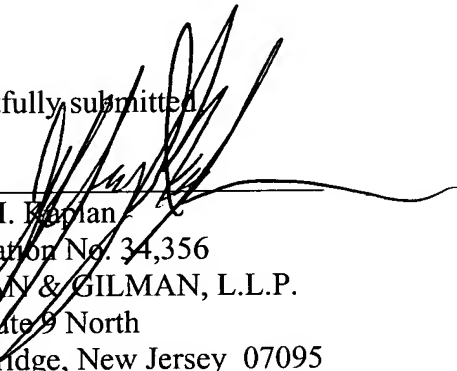
claims 43-45 recite further novel, nonobvious limitations not disclosed in the prior art of record. Accordingly, claims 42-45 are believed to be patentable.

Conclusion

Based on the foregoing, Applicants contend that all pending claims are allowable and respectfully request that the instant case be passed to issue. The Examiner is invited to call the below-listed attorney to resolve any outstanding matters. The Commissioner is hereby authorized to deduct any fees believed due from, or credit any overpayment to, our Deposit Account No. 11-0223.

Dated: December 17, 2004

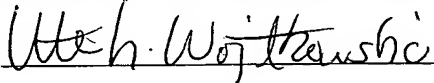
Respectfully submitted,

By 
Jeffrey I. Kaplan
Registration No. 34,356
KAPLAN & GILMAN, L.L.P.
900 Route 9 North
Woodbridge, New Jersey 07095
(732) 634-7634
Attorneys for Applicant

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to the MS: Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: December 17, 2004

Signature:



Print Name: Ute H. Wojtkowski